Photonics leaders in the spotlight at OFC/NFOEC

One of the biggest shows in the opto industry calendar is the OFC/NFOEC 2006* exhibition and conference. This was recently held at the Anaheim Convention Center, USA.

To begin with a relatively unfamiliar name, Peleton Photonic Systems of Ottawa, Canada, demonstrated what it reckons is a breakthrough DWDM multi-channel laser technology, which will allow the simultaneous generation of multiple DFB-quality laser channels in a more compact, scalable and cost-effective way than ever before.

"This inherent flexibility offered by our compact multi-wavelength laser brings with it the potential of disrupting the economics of communications networking in the near future," said Richard Pepin, president and CEO, Peleton Photonic Systems. It envisions a critical building block of next-generation WDM fibre access and other cost-sensitive high-bandwidth applications complementing other emerging innovations in integrated optics and silicon photonics; grandly suggesting that it will "completely change the landscape of communications and computing."

Visit: www.peleton.com

"Peleton Photonic Systems breakthrough DWDM multi-channel laser technology allows the simultaneous generation of multiple DFB-quality laser channels in a more compact, scalable and cost-effective way"

Meanwhile, expanding its product portfolio for the high-performance telecoms and datacoms markets, was Inphi Corporation's 1348TA and 1349TA Integrated Linear Transimpedance Amplifier (TIA) with Automatic Gain Control. The TIAs operate at data rates up to 11.3 Gbps and can amplify input currents over the entire dynamic range required by the upcoming IEEE 10GBASE-LRM standard, with extremely low - <5% - total harmonic distortion. This preserves the input data characteristics and allows an electronic dispersion compensation circuit in the receiver to easily recover data from a distorted signal. The 1348TA and 1349TA are the only linear TIAs available that leverage through-wafer via (TWV) technology. This feature simplifies the internal package assembly by eliminating ground bond wires and reducing the number of bypass caps. More importantly, TWVs enhance optical receiver performance by maintaining a flat gain versus frequency profile, increasing the output return loss and decreasing cross talk and jitter, it said.

Visit: www.inphi-corp.com

One of the photonics components leaders, JDSU was keeping its high profile at the show. Amongst its new offerings was the so-called 'SmartClass' family of access field testers, a new set of high-performance point solutions that help carriers efficiently test broadband access networks. Included in the portfolio are the SmartClass ADSL for ADSL 1/2/2+ testing and the SmartClass OTS-55 optical test set for dark fibre installation and troubleshooting. Helmut Berg, senior VP of JDSU's Test and Measurement group, said: "Whatever the technology-specific access test requirements, the SmartClass handheld tools provide what our customers need to accelerate the deployment of triple-play services. Adding to our existing world-class portfolio of testers, JDSU offers the industry's broadest portfolio of communications test instruments, systems and services."

Visit: www.jdsu.com

Zarlink Semiconductor and Passave Inc showcased a gigabit/second triple-play FTTH/FTTP network with integrated E1/T1 TDM voice service. The FTTH/FTTP network demonstrates a fully loaded and congested network with many users, multiple high-definition applications, and high-bandwidth one gigabit/second upstream and downstream traffic that exhibits predictable QoS (quality of service) performance. "Combining our QoS-aware triple-play PON chipset and Zarlink's ZL50120 CESoP processor enables network operators to carry circuit-switched voice and T1/E1 services over Ethernet-based PON networks with predictable QoS performance - avoiding the need for costly access lines for legacy services," said Onn Haran, CTO, Passave.

Visit: www.zarlink.com and www.passave.com

Similarly, NeoPhotonics and Azzurri Technology Group, formed a reseller agreement for optical components, featuring advanced planar lightwave circuit and other designs, for FTTP, metro and long-haul equipment. NeoPhotonics also announced a 'major advance in the deployment of triple-play services' via FTTP networks - the industry's first PLC Triplexer Module in a standard 2x2-in package. Like other triplexers, NeoPhotonics' PT8815 features a digital transmitter for signal transmission at 1310 nm upstream to the Line Terminal (LT), a digital receiver for downstream reception at 1490 nm, and an analog receiver for video overlay at 1550 nm. While conventional triplexers feature TO Can based laser and photo diodes and discrete Thin Film Filter (TFF) components, the PT8815 integrates transmitter, receiver and filter functions into a single PLC chip, thus reducing production cost in high volume while maintaining the same performance, reliability and form factor.

Visit: www.neophotonics.com

Finally, the IEEE named Frederick J. Leonberger as the recipient of its 2006 IEEE Photonics Award, sponsored by the IEEE Lasers and Electro-Optics Society (LEOS). The award was in recognition of his "technical leadership, commercialization, and practical deployment of photonic component technologies for optical communications".

While at Lincoln Laboratory at the Massachusetts Institute of Technology in Lexington, MA, and at the United Technologies Research Center in East Hartford, CN, Leonberger led the development of high-performance external modulation components in lithium niobate and semiconductors. He contributed directly to the development of fibre Bragg gratings and other components deployed in WDM networks. Formerly with JDS Uniphase in San Jose, he now heads his own technology advisory firm, EOvation Technologies LLC, in West Hartford, CN.

*OFC/NFOEC 2006: since 1985, the Optical Fiber Communication Conference and Exposition (OFC) has been the annual forum for those in the optical communications field to network and share research and innovations. In 2004, OFC joined forces with the National Fiber Optic Engineers Conference (NFOEC) creating the largest and most comprehensive international event for optical communications.

Visit: www.ofcnfoec.org